

ABSTRACT OF THE DISCLOSURE

A system and method for determining the orientation of fibers in a fibrous material web. The system includes at least one source of electromagnetic radiation disposed on one side of the fibrous material web, at least one sensor for sensing the electromagnetic radiation emitted by the at least one source disposed on another side of the fibrous material web, and at least one optical device disposed between the at least one source and the at least one sensor, wherein the electromagnetic radiation travels through the at least one optical device and the fibrous material web such that the at least one optical device influences a propagation of the electromagnetic radiation as a function of its polarization properties. The method includes exposing a first side of the fibrous material web to electromagnetic radiation from at least one source, allowing the electromagnetic radiation to penetrate to a second side of the fibrous material web, influencing a propagation of the electromagnetic radiation as a function of its polarization properties with at least one optical device disposed between the at least one source and at least one sensor, and sensing the electromagnetic radiation on the second side with the at least one sensor.